FIG. **1** shows a combined display and input device which is equipped for use on a computer with function buttons and a loudspeaker,

FIG. **2** depicts a flexible display device in a schematic representation, and

FIG. **3** illustrates the configuration of the casing of an actuator element as a suction cup, likewise in schematic representation.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, wherein like reference numerals designate identical or corresponding parts throughout the several views, the invention is next explained below on the basis of embodiments.

In the embodiment represented in FIG. **1**, the display device is realized as a matrix.

The matrix has a large number of elements **1** which are separated from one another by insulation frames **2**. The elements are individually and cyclically controlled as is basically known in connection with video screens. One objective of the insulation frames consists in separating the elements from each other such that an individual actuation is ensured without for example vibrations or heat extending into neighboring elements. In order to assure good recognizability, it is important for the properties of each individual element to be controllable separately and independently from other elements. The separation of the matrix elements is electrical as well as mechanical and thermal. In relation to the actuation of thermal properties, it is important that the insulation frames also have a small thermal capacity so that rapid temperature changes are possible. The resolution of the display device is determined by the dimensioning of the matrix elements **1** as well as by the construction of the insulation frame **2**.

The matrix elements **1** are, as already explained, actuatable in several characteristics. For generating heat, an infrared sensor comes into consideration here, a voltage sensor can generate electrical impulses and for generating oscillations, piezo elements as well as micromechanical or magneto-strictive elements are usable.

The various image information is now imaged in that the nerves of the finger sense the stimuli arising, namely thermal, mechanical and/or electrical with different apertures of the surface touched when sliding over the active matrix elements. In this way, very realistic, almost three dimensional images can arise in the brain. The simplest method is the generation of image information through mechanical oscillations of the elements. The other methods require more exercise and are dependent upon external temperature and humidity as well as the mental constitution of the user. The combined solution has the advantage that at the same time several nerve cells that are competent for different stimulus recognitions are addressed, and one can, in this way, obtain a better resolution of graphic information. Through the different types of stimuli, various contours as well as various shapes and color tones can be transmitted to the user.

The objective of the display device lies in transforming electronic image information **7** and actuating the elements such that an "image" which is interpretable for the user is generated on the matrix. Since perceptibility is individually variable, the processing options of the actuation device **6** is adjustable.

A block with function keys **3** and an input unit **4** for Braille script is provided as an input device. By laying the fingers on the input fields of the input unit for Braille script, coded signs can be read by the device and be converted into figures and numbers by an OCR module. The display takes place through the previously described display device. The processing options of the actuating device **6** can be adjusted especially through the function keys **3**.

A loudspeaker **5** is provided as a further display device.

Further possible applications for the display device consist in the use as a TV video screen or even in connection with a video camera as an "eye" in normal life. With the last mentioned application, it is advantageous to use two cameras so that when using the appropriate software, which, for example, undertakes contour transformation and contrast alteration, even three dimensional images can be generated.

The elements **1** may also have sensory properties for sensing mechanical contact and generating output signals which are transmitted to an evaluation unit **8** for generating electronic image information **9** based on the output signals. The electronic image information **9** generated by the evaluation unit **8** defines an image created by the mechanical touching.

In the embodiment represented in FIG. **2**, the display device is realized as a matrix with a flexible support **13**. The matrix has a large number of actuator elements **11**, which are separated from one another by casings **12**. The actuator elements are individually and cyclically controlled, as is chiefly known from video screens. The objective of the casings among other things consists in separating the actuator elements **11** from each other such that an individual actuation is assured without, for example, vibrations or heat being able to extend to neighboring elements. In order to assure a good recognzability, it is important for the properties of each individual actuator elements to be actuatable separately and independently of other actuator elements. The separation of actuator elements **11** in the matrix is electrical as well as mechanical and thermal. With reference to the actuation of thermal properties, it is important that the casings also have a small thermal capacity so that rapid temperature changes are possible. The resolution of the display device is determined by the dimensioning of the matrix elements **11**, the construction of the casings **12** as well as the density of the nerve endings at the place in the body where the display device is installed.

The actuator elements **11** are actuatable in several properties. For generating heat, an infrared sensor comes into consideration in this connection. A voltage sensor can generate micro-discharges, and for generation of oscillations, piezo elements as well as micromechanical elements or magneto-strictive elements are usable.

The material of a flexible support **13** should either have air-permeable properties, or interstices should be left free between the actuator elements **11** in order not to hinder skin respiration during several hours of wearing time. The density of the actuator elements is correspondingly selected in harmony with the nerve distribution and the stimulus resolution possibilities of the skin parts selected for wearing.

Various modes of actuation are possible for mode of operation of the display device. In one actuation variant, all actuator elements **11** are simultaneously actuated. In another variant, individual image elements, for example also letters, are transmitted one after the other with adjustable time intervals. Which mode is preferred depends upon the information to be represented as well as upon individual preferences and opportunities of a user.

An actuation device **14** is connected with the display device. Information **15** to be represented is transmitted to the